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Financial Resilience of Tourism Companies in Türkiye During Economic Crises: A Longitudinal Analysis of Listed Firms, 2017–2022

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Article

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Financial Resilience of Tourism Companies in Türkiye During Economic Crises: A Longitudinal Analysis of Listed Firms, 2017–2022

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Abstract

Tourism companies are exposed to financial uncertainty arising from seasonal demand, economic shocks, and disruptions in travel activity. This study examines the financial resilience of selected listed tourism companies in Türkiye between 2017 and 2022, with particular attention to the COVID-19 period. Using secondary financial data from eight tourism companies, the study evaluates financial distress through the Altman Z-score model and examines cash flow, operating profitability, and investment-related income as complementary financial indicators. The analysis compares firm-level financial conditions over time to identify differences in financial performance and potential characteristics associated with resilience. The findings indicate substantial variation in financial conditions across the selected firms, with some maintaining favourable Z-scores despite weaknesses in individual financial indicators. The study highlights the importance of examining multiple financial indicators when assessing the resilience of tourism companies during periods of economic disruption. The findings provide comparative insights into the financial conditions of listed tourism firms in Türkiye and offer a basis for further research using larger samples and more comprehensive statistical models.

Keywords: Financial resilience; Tourism companies; Financial distress; Altman Z-score; COVID-19; Türkiye

Introductıon

The tourism industry is highly exposed to economic fluctuations, seasonal demand, and unexpected external disruptions. Its dependence on travel activity, consumer spending, and operational continuity makes tourism companies particularly vulnerable to financial uncertainty. The COVID-19 pandemic intensified these challenges by disrupting international travel, reducing tourism demand, and placing substantial pressure on the financial performance of businesses across the sector (WHO, 2020a). These circumstances highlight the importance of understanding how tourism companies maintain financial stability during periods of economic disruption. According to the WHO report, as of November 24, 2023, 6,990,067 people had died (WHO, 2023 Report). The COVID-19 pandemic has not only caused economic uncertainty on a global scale but has also transformed everything from the workplace to daily life, and from consumption habits to travel habits (Kubar, 2022).

Financial stability in tourism companies depends not only on revenue generation but also on the ability to manage operating costs, maintain sufficient liquidity, and respond to changing market conditions. Seasonal fluctuations may create periods of uneven cash inflows, while economic crises can intensify financial pressure through declining revenues and limited access to financial resources (World Bank Report, 2022). Consequently, examining financial performance over time is essential for understanding the financial condition of tourism companies under uncertain economic circumstances.

The financial stability of tourism companies is closely associated with their asset structure, debt obligations, liquidity, and ability to generate sustainable operating cash flows (Huertas & Meyer Cirkel, 2021). During periods of economic uncertainty, declining revenues and increasing financial obligations may weaken corporate balance sheets and increase the risk of financial distress. For tourism businesses, these challenges may be intensified by seasonal revenue fluctuations and disruptions to travel demand. Therefore, evaluating financial stability requires an assessment of multiple financial indicators rather than relying exclusively on individual financial ratios (Bova et al., 2016; Wills et al., 2016).

Financial distress prediction has been widely examined using financial ratios and statistical models (Allen, 2003; Mehta, 2022). For example, for banks, the default risk and debt ratio are more frequently used (Zhang et al., 2016). Beaver (1966) demonstrated the use of financial ratios in predicting corporate failure, establishing an important foundation for subsequent bankruptcy prediction research. Later studies have developed and applied different financial distress models to evaluate the financial condition of firms across industries. Among these approaches, the Altman Z-score model remains a widely recognised framework for assessing financial distress using selected accounting-based indicators. However, the suitability and

interpretation of such models may vary according to industry characteristics and the financial structure of the firms being analysed.

Although financial distress prediction has received considerable attention in corporate finance research, evaluating financial resilience in the tourism industry presents specific challenges. Tourism companies operate amid seasonal demand, fluctuating revenues, and exposure to external economic shocks. Consequently, financial stability cannot always be captured by a single bankruptcy prediction indicator. The combined examination of financial distress scores, cash flow, operating profitability, and investment-related income may provide a broader perspective on the financial conditions of tourism companies during periods of economic uncertainty.

Against this background, the present study examines selected listed tourism companies in Türkiye over the period 2017–2022. Specifically, it aims to evaluate their financial conditions using the Altman Z-score model, compare changes in financial indicators before and during the COVID-19 period, and explore financial characteristics associated with differences in financial resilience. By adopting a longitudinal comparative approach, the study seeks to provide firm-level insights into the financial performance of tourism companies during a period of substantial economic disruption (ISO, Sustainable Finance Report, 2024).

The study addresses the following research questions:

1. How did the financial conditions of the selected listed tourism companies in Türkiye change between 2017 and 2022?
2. How did the financial performance of these companies differ before and during the COVID-19 period?
3. What financial characteristics were associated with stronger financial conditions among the selected tourism companies?

The study contributes to the understanding of tourism-sector financial resilience by comparing firm-level financial distress indicators with complementary financial measures over time. It also highlights the importance of interpreting bankruptcy prediction scores alongside other financial indicators when assessing corporate financial conditions during economic disruption.

Research Gap and Contribution of the Study

Although financial distress prediction has been widely examined across different industries, the financial resilience of tourism companies during periods of major economic disruption requires further investigation. Tourism businesses may experience substantial fluctuations in revenue,

liquidity and operating profitability because of their dependence on travel demand and seasonal operations. Moreover, a company's financial distress score may not always move in the same direction as its cash flow or operating profit. Examining these indicators together can therefore provide a broader understanding of corporate financial conditions.

This study addresses this issue by examining eight selected listed tourism companies in Türkiye over the period 2017–2022. It compares changes in Altman Z-scores, cash surplus or deficit, operating profit or loss, and investment-related income or expenses across the selected firms. By considering these indicators together, the study provides a comparative assessment of differences in financial conditions during the COVID-19 period. The findings are intended to contribute to the discussion of financial resilience in tourism businesses while recognising that a small, selected sample and a descriptive analytical approach limit the generalisability and causal interpretation of the results.

Financial Distress and Corporate Failure

Financial distress refers to a company's difficulty in meeting its financial obligations and maintaining normal business operations. When liquidity problems persist and cannot be resolved through routine financial adjustments, firms may need to adopt more substantial financial or operational measures (Kolb, 1983; Ross et al., 2005; Yüksel, 2022). Understanding the financial indicators associated with distress is therefore important for assessing corporate financial soundness and identifying potential risks.

Altman Z-Score Model

The Altman Z-score model is a financial distress prediction technique based on discriminant analysis and financial ratios derived from corporate financial statements (Kulalı, 2016). It provides an indication of a firm's financial condition and potential risk of failure and has also been used in credit assessment and investment analysis (Miller, 2009; Hauschild, 2013). Altman subsequently developed modified versions of the original model to address differences between publicly traded manufacturing firms, privately held firms and non-manufacturing or service-sector businesses (Altman, 1983, 2000; Çelik, 2018).

The choice of model is particularly important when examining tourism companies because their operating and financing characteristics may differ from those of manufacturing firms. Accordingly, the model applied in this study should be justified in relation to the characteristics of the selected tourism companies, and its interpretation should consider the limitations of applying a general financial distress model to service-sector businesses.

Cash Flow, Liquidity and Financial Resilience in Tourism Companies

Cash flow and liquidity are important indicators of a company's capacity to meet short-term obligations and sustain business operations. This is particularly relevant to tourism companies, which may experience seasonal revenue fluctuations, changes in demand and uncertainty in operating cash flows. A company may report positive accounting profits while simultaneously experiencing liquidity pressure if cash receipts and payment obligations are poorly aligned.

The relationship between investment and internally generated cash flow has also been examined in corporate finance research. Fazzari et al. (1988) discussed investment–cash flow sensitivity in relation to firms' financing constraints. This relationship is relevant to understanding how firms finance investment and maintain financial flexibility when external financing is limited or operating performance weakens. In the context of tourism companies, operating cash flow, investment-related income and other sources of revenue may therefore provide useful information for evaluating financial soundness and resilience during periods of economic uncertainty [Fig 1].

By understanding the common patterns behind financial failure, CFOs can implement early intervention strategies that address root causes rather than symptoms, potentially saving their organizations from becoming just another statistic (Kruger, 2025).



Fig. 1: The Financial Failure Cycle of Companies

Source: Kosha, https://www.wallstreetmojo.com/business-failure/

Maintaining a corporate vision (Kruger, 2025) and informing and caring for consumers (Mehta, 2022) also prevents failure.

Literature Review

Research on corporate financial failure has evolved from the analysis of individual financial ratios to the application of multiple financial distress prediction models. Beaver (1966) conducted one of the early empirical studies in this field by examining 79 successful and 79 unsuccessful firms over the period 1954–1964. The study used six financial ratios to investigate the predictive ability of accounting information and demonstrated the relevance of financial ratios in identifying potential business failure.

Subsequent studies have applied and compared different financial distress prediction models across countries and industries. Fedorova et al. (2016) examined bankruptcy prediction in Russian companies using several models, including the Altman, Fulmer, Taffler, Springate, Zmijewski, ISEA, Zaitseva and Saifullin–Kadykov models. Similarly, Karas and Srbova (2019) investigated financial failure among companies in the Czech construction sector using data from 2006 to 2015. These studies illustrate the application of financial distress prediction techniques in different national and industrial settings.

The application of financial distress prediction models is also relevant to the tourism industry, where revenue fluctuations and changes in market conditions may affect financial performance. Karadeniz and Öcek (2020) examined the bankruptcy of Thomas Cook, which occurred in 2019, using the Altman Z-score, Springate S-score, Fulmer H-score, Canada and Ohlson O-score models. Their analysis focused on whether these models could identify the company's financial difficulties before its bankruptcy. This study provides a sector-relevant example of applying financial distress prediction models to a tourism company.

In addition to financial distress prediction, previous research has examined the relationship between cash flow and corporate investment. Larkin et al. (2018) investigated investment–cash flow sensitivity across 43 countries using Worldscope data covering the period from 1991 to 2014. Their findings indicated a decline in investment–cash flow sensitivity among firms in wealthy and developed countries. Sezgin (2020) compared cash-flow-based indicators with established bankruptcy and financial failure prediction models, including the Altman Z-score and Ohlson O-score. These studies provide a basis for considering cash flow alongside traditional financial ratios when assessing corporate financial conditions.

Overall, the reviewed literature demonstrates the use of financial ratios, bankruptcy prediction models and cash-flow-based indicators to assess corporate financial distress. However, the studies discussed above focus on different countries, industries and analytical approaches. The present study builds on this literature by examining the financial soundness and failure status of selected tourism companies in Türkiye over the 2017–2022 period. By considering the

financial performance of these companies across the study period, it seeks to provide a comparative assessment of their financial conditions and examine how financial indicators reflect their ability to withstand periods of economic uncertainty.

Financial Resilience During Economic Disruptions

Financial resilience refers to a firm's ability to maintain or restore its financial stability when confronted with adverse economic conditions. It is related to, but distinct from, the absence of financial distress. A company may retain a favourable financial position according to selected accounting ratios while simultaneously experiencing pressure on its operating cash flows or profitability. Therefore, financial resilience should be examined using multiple indicators rather than a single measure.

This distinction is particularly relevant to tourism companies because their revenue generation may depend on seasonal demand, occupancy rates, travel restrictions and changes in consumer behaviour. During the COVID-19 disruption, differences in business activities, financing arrangements and investment income may have contributed to variation in the financial conditions of individual firms. However, these potential explanations should be treated cautiously unless they are directly supported by the available company-level data.

The present study builds on the established literature on financial distress prediction by comparing Altman Z-scores with cash flow and operating profitability indicators. Its longitudinal approach makes it possible to describe changes across the selected companies between 2017 and 2022. Nevertheless, descriptive comparisons alone cannot establish that any particular company characteristic caused stronger financial performance or that the pandemic was solely responsible for observed changes.

Method

Research Design

This study adopts a quantitative, longitudinal and comparative research design to examine the financial soundness and potential financial distress of selected tourism companies in Türkiye over the period 2017–2022. The analysis is based on annual financial data and considers the financial conditions of the selected companies before, during and after the COVID-19 disruption.

Sample Selection and Data Sources

The study examined eight listed tourism companies in Türkiye: Altınyunus Çeşme (AYCES), Marmaris Altınyunus (MAALT), Martı Otel (MARTI), Kuştur Kuşadası Turizm Endüstri A.Ş. (KSTUR), Merit Turizm (MERIT), Petrokent Turizm (PKENT), Tek-Art Turizm (TEKTU), and Ulaşlar Turizm Yatırım (ULAS). The study covered the period from 2017 to 2022. Financial information was obtained from company annual reports and published financial statements, including documents available through the Public Disclosure Platform (KAP). The analysis used the reported financial information to calculate Altman Z-scores and examine cash surplus or deficit, operating profit or loss, and investment-related income or expenses.

Variables and Financial Indicators

The study uses the Altman Z-score to assess financial distress risk and examines cash flow, operating profit or loss, and income or expenses associated with investment and partnership activities as additional financial indicators.

Cash flow is measured as the difference between cash inflows and cash outflows, while operating profit or loss is derived from the relevant operating financial statement items. Investment-related income or expenses are considered separately to identify the contribution of activities beyond the companies' core operations.

Altman Z-Score Model

The Altman Z-score is used as a financial distress indicator based on selected accounting ratios. The study calculates the score using the following components:

- T1 = Net working capital / Total assets
- T2 = Retained earnings / Total assets
- T3 = Earnings before interest and taxes / Total assets
- T4 = [Specify the exact equity measure] / Total liabilities

The exact model specification and the classification thresholds are determined according to the selected Altman model. The model's suitability for the selected tourism and service-sector companies is considered when interpreting the results.

Data Analysis Procedure

Annual financial data for each company were organized and compared across the study period. The calculated Z-scores were used to assess financial distress risk, while cash flow, operating profit or loss, and investment-related income or expenses were examined to provide additional context for the financial performance of each company.

The analysis compares the financial indicators across companies and years, with particular attention to changes observed during the COVID-19 period. The results are presented using

comparative tables and visualizations to identify differences in financial conditions and patterns of financial resilience.

Result and Discussion

Logarithmic transformation is used, especially in financial series, to reduce very large and very small value differences, to see trends more clearly, and to stabilise variance. After logarithmic transformation and normalization, all series were reduced to the same scale and made comparable (Gujarati and Porter, 2009).

Altınyunus Çeşme exhibited fluctuations in its Altman Z-score during 2017–2022. The score increased from 2.87219 in 2017 to 4.12076 in 2019, declined to 3.36556 in 2020, and subsequently increased to 6.78433 in 2022. This pattern indicates an improvement in the reported score after the decline observed in 2020. However, the other financial indicators did not consistently follow the same pattern. Cash flow was negative in 2020, while operating losses were reported in 2017 and 2020. The reported operating loss in 2022 also suggests that a higher Z-score did not necessarily coincide with positive operating performance in every year. During the 2020–2021 period, the score recovered in 2021, alongside reported improvements in cash flow and operating profitability. These observations demonstrate the importance of examining the Z-score together with cash flow and operating results rather than treating any single indicator as a complete measure of financial resilience (Table 1 and Fig. 2).

Table 1: Financial Soundness and Supporting Factors of Altınyunus Çeşme Company.

Year	Altman Z-score	Cash Flow	Operating Profit/Loss	Investment Income/Expense
2017	2.87219	483,927	−2,386,207	16,000
2018	3.07291	150,418	3,765,458	25,000
2019	4.12076	825,918	7,551,724	54,000
2020	3.36556	−1,011,333	−7,829,092	17,000
2021	5.5682	10,622,858	17,661,656.7*	76,000
2022	6.78433	−17,885,114	−6,611,000	−537,000

Note: The 2021 operating profit/loss fig requires verification against the original financial statement. The currency and unit of measurement should be specified consistently with the source data. The financial distress classification has not been included because the applicable Altman Z-score model and its classification thresholds need confirmation.

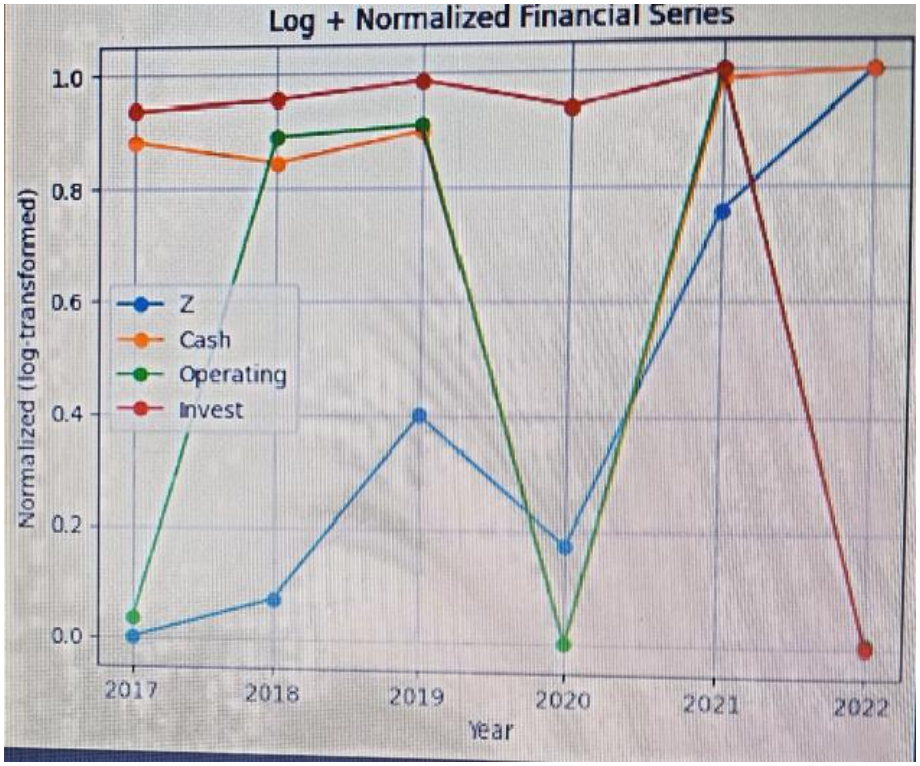


Fig 2: Comparison of the Components of Altınyunus Çeşme Company.

Marmaris Altınyunus maintained positive Altman Z-scores throughout 2017–2022, although the scores fluctuated over the period. The score declined from 7.94581 in 2017 to 4.45101 in 2018, increased to 6.21841 in 2019, and reached 6.77557 in 2020. It remained at 6.75111 in 2021 before rising to 7.26340 in 2022. These changes indicate variation in the company's reported financial position rather than a continuous improvement. Cash flow was positive in 2017–2019 and 2021 but negative in 2020 and 2022. Operating profitability also varied: losses were reported in 2018, 2019, 2021 and 2022, with a substantial loss in 2022. In 2020, the company recorded a cash deficit despite a positive operating result and a relatively high Z-score. This divergence shows that the score and individual financial indicators did not consistently move together. Compared with companies that experienced persistently negative Z-scores, Marmaris Altınyunus displayed stronger scores, but its cash-flow and operating-profitability figures still reveal areas of financial pressure (Table 2 and Fig. 3).

Table 2: Financial Soundness and Supporting Factors of Marmaris Altınyunus Company

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Income/Expense Difference	Financial Soundness
2017	7.94581	6,647,000	523,000	58,000	No risk of bankruptcy
2018	4.45101	30,544,782	−239,000	43,000	—

2019	6.21841	5,711,070	−791,789	65,000	—
2020	6.77557	−20,651,064	51,725	41,000	No risk of bankruptcy
2021	6.75111	12,329,489	−841,000	−1,104,000	No risk of bankruptcy
2022	7.2634	−11,579,367	−31,446,000	1,522,000	No risk of bankruptcy

Source: Author's calculations.

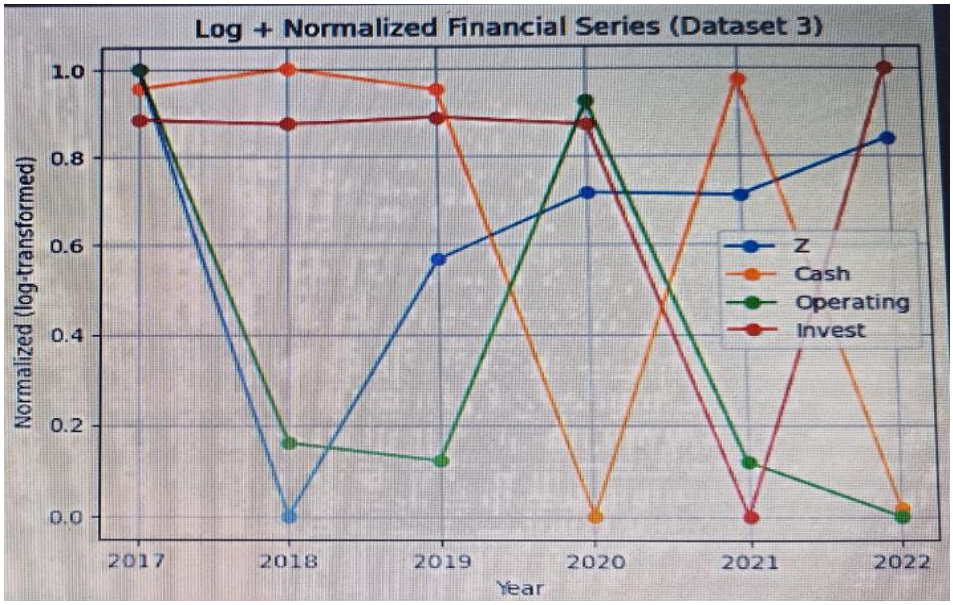


Fig 3: Comparison of Components of Marmaris Altınyunus Company.

Martı Otel exhibited considerable financial fluctuations during 2017–2022. Its Altman Z-score was negative in 2017, fell to −7.64484 in 2019, and remained substantially negative in 2020 and 2021 before improving to −0.43775 in 2022. The negative scores in most years indicate continued financial vulnerability under the model applied in the study. Cash flow was negative in 2017 but positive in each subsequent year shown in Table 3. Nevertheless, operating losses persisted in 2019, 2020 and 2021, including a substantial loss in 2020. In 2022, operating profit increased to 181,745,000, accompanied by positive cash flow and an improved Z-score. This change suggests an improvement in reported operating performance in the final year, although the score remained negative. The contrast between positive cash flow and negative Z-scores in several years illustrates why liquidity, profitability and balance-sheet-based indicators should be considered together. Compared with companies that maintained consistently positive scores, Martı Otel showed a more pronounced pattern of financial vulnerability during the study period (Table 3 and Fig. 4).

Table 3. Financial Soundness and Supporting Factors of Martı Hotel Businesses

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Activity Income–Expense Difference	Financial Soundness
2017	−2.20778	−366,000	−4,281,000	11,282,000	Very high bankruptcy risk according to Z-score
2018	0.75469	955,000	2,586,000	15,024,000	—
2019	−7.64484	301,000	−17,711,000	15,970,000	—
2020	−6.53328	301,063	−68,891,000	14,164,000	Very high bankruptcy risk according to Z-score
2021	−6.03720	23,323,004	−12,877,000	12,127,000	Very high bankruptcy risk according to Z-score
2022	−0.43775	11,154,097	181,745,000	4,132,000	Very high bankruptcy risk according to Z-score

Source: Author's calculations

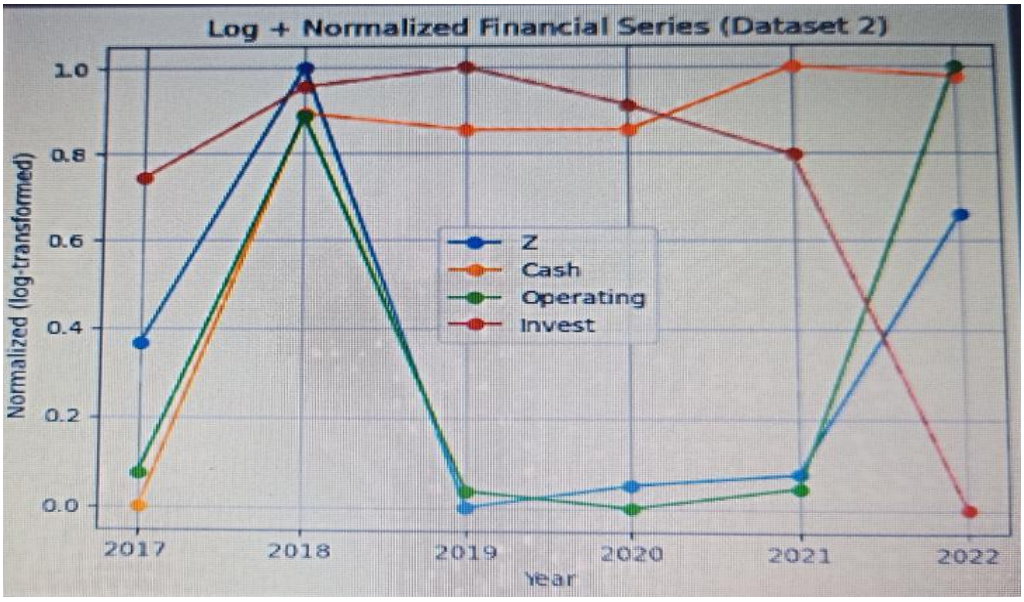


Fig 4: Comparison of the Components of the Martı Hotel Company

Kuştur Kuşadası Tourism Company recorded positive Altman Z-scores throughout 2017–2022, although the values fluctuated considerably. The score was 18.76790 in 2017, declined to

8.14846 in 2018, increased to 18.64921 in 2019 and peaked at 27.64242 in 2020. It subsequently declined to 25.01398 in 2021 and 7.64407 in 2022. Despite the high reported scores, the company's supporting financial indicators showed a mixed pattern. Cash flow was negative in 2019 and 2020, while operating losses were reported in 2020. In 2021 and 2022, cash flow was positive, and operating profit was also positive. Operating profit increased substantially to 159,516,000 in 2022, although the Z-score declined markedly that year. During the 2020–2021 period, the high scores therefore did not always correspond to positive cash flow or operating profitability. Compared with Martı Otel, which reported negative Z-scores in most years, Kuştur maintained positive scores throughout the observation period. Nevertheless, the fluctuations in its indicators demonstrate the need to interpret the Z-score alongside the company's actual cash and operating results (Table 4 and Fig. 5).

Table 4. Financial Soundness and Supporting Factors of Kuştur Kuşadası Tourism Company

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Activity Income–Expense Difference	Financial Soundness
2017	18.7679	2,817,000	4,743,000	37,000	No risk of bankruptcy
2018	8.14846	15,410,000	16,526,000	0	—
2019	18.64921	−4,185,000	14,380,000	−3,000	—
2020	27.64242	−5,868,689	−6,213,000	3,000	No risk of bankruptcy
2021	25.01398	19,461,473	5,874,000	0	No risk of bankruptcy
2022	7.64407	16,979,683	159,516,000	0	No risk of bankruptcy

Source: The calculations were prepared by me. The period indicated in red covers the COVID-19 period.

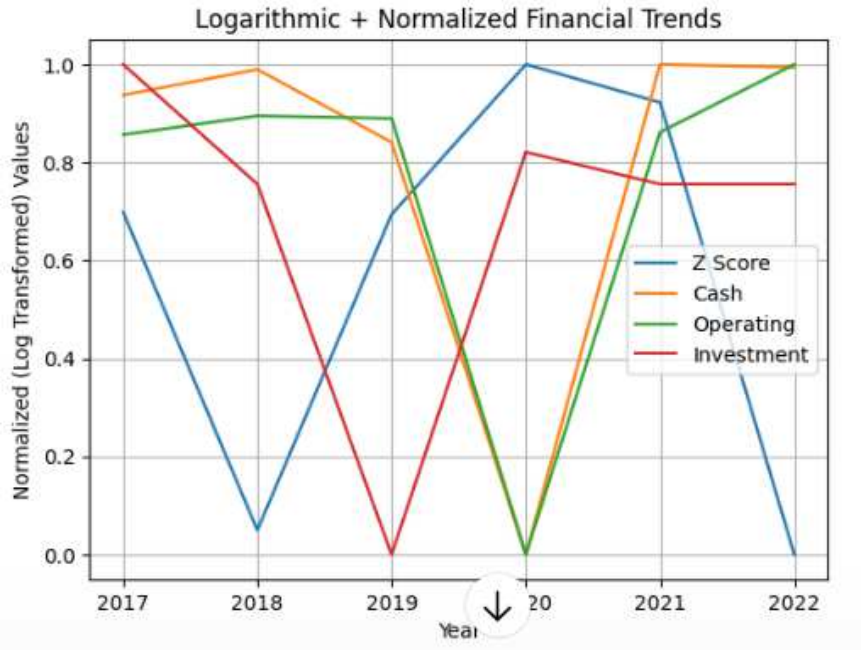


Fig 5: Comparison of the Components of Kuştur Company.

Petrokent Tourism Company showed a marked change in its reported financial indicators between 2017 and 2022. Its Altman Z-score was −1.39203 in 2017, increased to 3.16219 in 2018 and reached 4.96374 in 2019. The score then declined to 1.43503 in 2020 before recovering to 6.38165 in 2021 and 7.50522 in 2022. Cash flow was slightly negative in 2017 but positive in each subsequent year reported in Table 5. Operating profit was positive from 2017 through 2019, turned negative in 2020, and increased again in 2021 and 2022. The 2020 decline in the Z-score coincided with an operating loss, while the improvement in subsequent years coincided with stronger operating results and positive cash flow. In 2022, operating profit reached 190,850,000, accompanied by a cash surplus of 72,602,559. Compared with Martı Otel and Tek-Art Turizm, which experienced more persistent negative operating results, Petrokent showed a stronger recovery in the final years. These observations describe an association between the indicators but do not establish the causes of the changes (Table 5 and Fig. 6).

Table 5: Financial Soundness and Supporting Factors of Petrokent Tourism Company

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Activity Income–Expense Difference	Financial Soundness
2017	−1.39203	−82,000	6,291,000	0	Very low bankruptcy risk
2018	3.16219	912,115	19,622,000	0	—
2019	4.96374	1,866,390	19,930,000	0	—
2020	1.43503	1,594,526	−4,688,000	0	Very high bankruptcy risk

2021	6.38165	16,913,185	32,963,000	0	No risk of bankruptcy
2022	7.50522	72,602,559	190,850,000	0	No risk of bankruptcy

Source: Author's calculations.

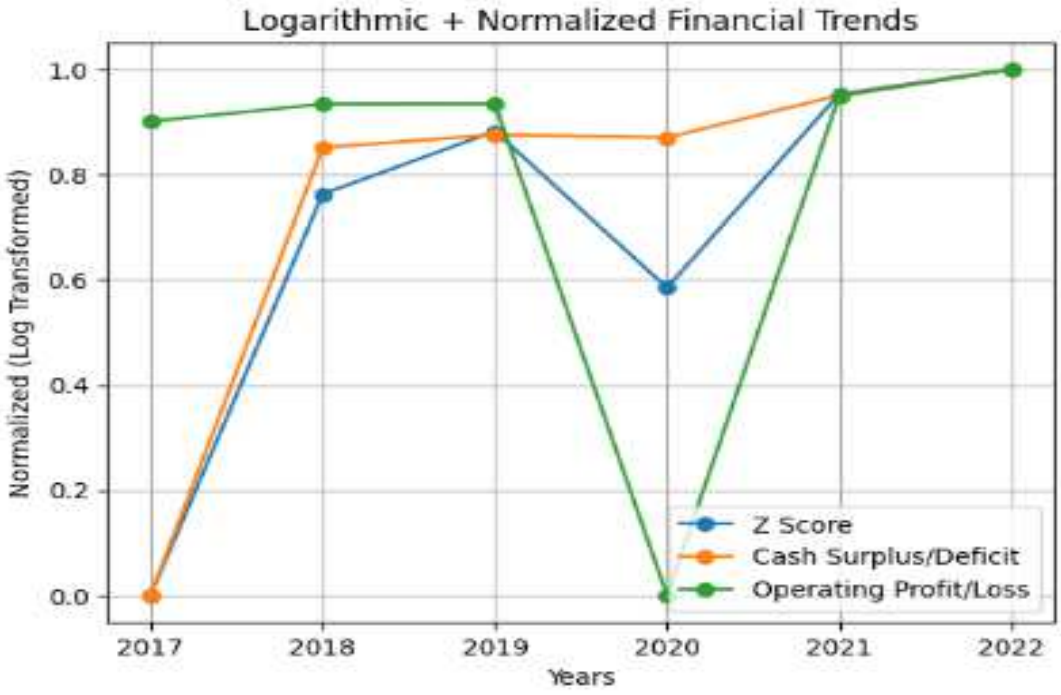


Fig 6: Comparison of the Components of Petrokent Company

Merit Tourism Company maintained positive Altman Z-scores throughout 2017–2022. The score declined from 11.59390 in 2017 to 7.93686 in 2018, increased to 13.42924 in 2019 and continued rising to 18.34509 in 2020 and 23.94443 in 2021. In 2022, it decreased slightly to 21.15970 but remained above its 2017 value. The company's operating profit was positive in every year shown in Table 6 and increased substantially to 93,258,000 in 2022. Cash flow was also positive throughout the period, with a larger surplus recorded in 2022. However, investment-related income or expense differences were negative from 2020 through 2022, indicating that not all financial indicators followed the same direction. During the 2020–2021 period, the Z-score and operating profit remained positive, while investment-related differences were negative. Compared with companies that experienced operating losses and negative Z-scores, Merit displayed a more consistently positive pattern across the reported indicators. Nevertheless, the analysis is descriptive and does not establish which company characteristics account for this pattern (Table 6 and Fig. 7).

Table 6: Financial Soundness and Supporting Factors of Merit Tourism Company

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Activity Income–Expense Difference	Financial Soundness
2017	11.5939	2,935	4,748,000	64,000	No risk of bankruptcy
2018	7.93686	1,897	4,172,000	4,342,000	—
2019	13.42924	24,954	7,784,000	1,160,000	—
2020	18.34509	5,418	3,505,000	−310,000	No risk of bankruptcy
2021	23.94443	5,894	5,530,000	−221,000	No risk of bankruptcy
2022	21.1597	1,333,564	93,258,000	−948,000	No risk of bankruptcy

Source: Author's calculations

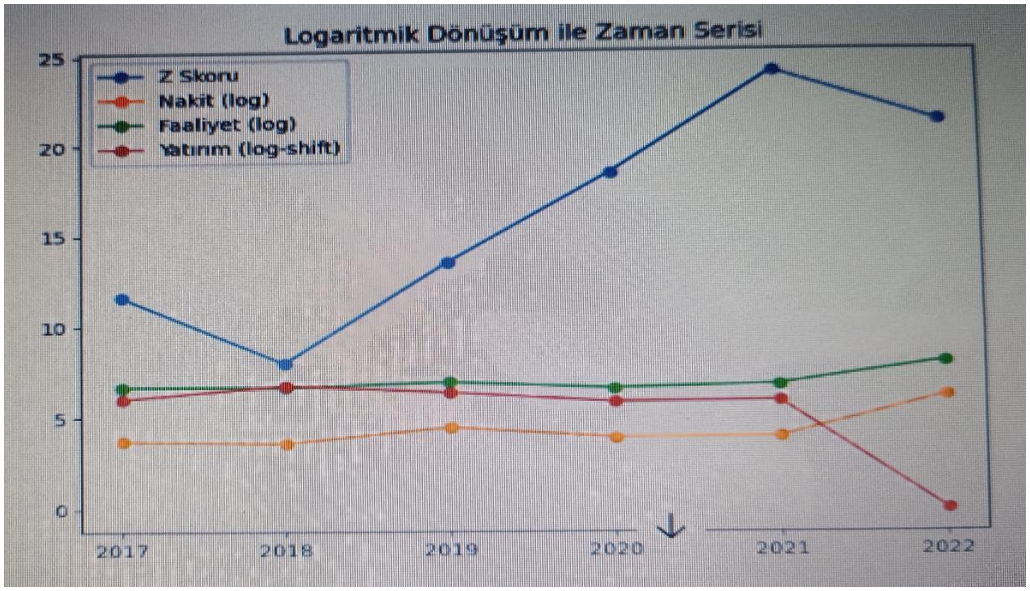


Fig 7: Comparison of Components of Merit Tourism Company

Tek-Art Turizm exhibited fluctuating financial indicators during 2017–2022. Its Altman Z-score increased from 2.31393 in 2017 to 3.16010 in 2018, declined to 1.73862 in 2019 and then remained relatively low at 1.95242 in 2020 and 1.99475 in 2021. The score subsequently increased to 3.70570 in 2022. Operating profitability was weak for most of the study period: losses were reported from 2018 through 2022, and the reported operating loss reached 117,176,000 in 2022. Cash flow was negative in 2017 and 2018, positive in 2019 and 2020, negative again in 2021, and strongly positive in 2022. Thus, the substantial cash surplus

reported in 2022 coincided with an operating loss and an improved Z-score. During 2020–2021, the company continued to report operating losses, while its cash position changed from a surplus to a deficit. Compared with Merit Tourism, which recorded positive operating profit throughout the period, Tek-Art showed a less consistent relationship between its Z-score, cash flow and operating profitability. These results highlight the importance of distinguishing cash generation from operating performance when assessing financial resilience (Table 7 and Fig. 8).

Table 7: Financial Soundness and Supporting Factors of Tekart Turizm Company

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Activity Income–Expense Difference	Financial Soundness
2017	2.31393	−4,808,038	780,000	40,945,000	Low risk of bankruptcy
2018	3.1601	−1,136,022	−12,855,000	17,677,000	—
2019	1.73862	344,610	−9,911,000	−1,115,000	—
2020	1.95242	956,549	−17,742,000	32,494,000	High risk of bankruptcy
2021	1.99475	−549,502	−27,937,000	195,801,000	High risk of bankruptcy
2022	3.7057	249,830,933	−117,176,000	54,208	No risk of bankruptcy

Source: Author's calculations.

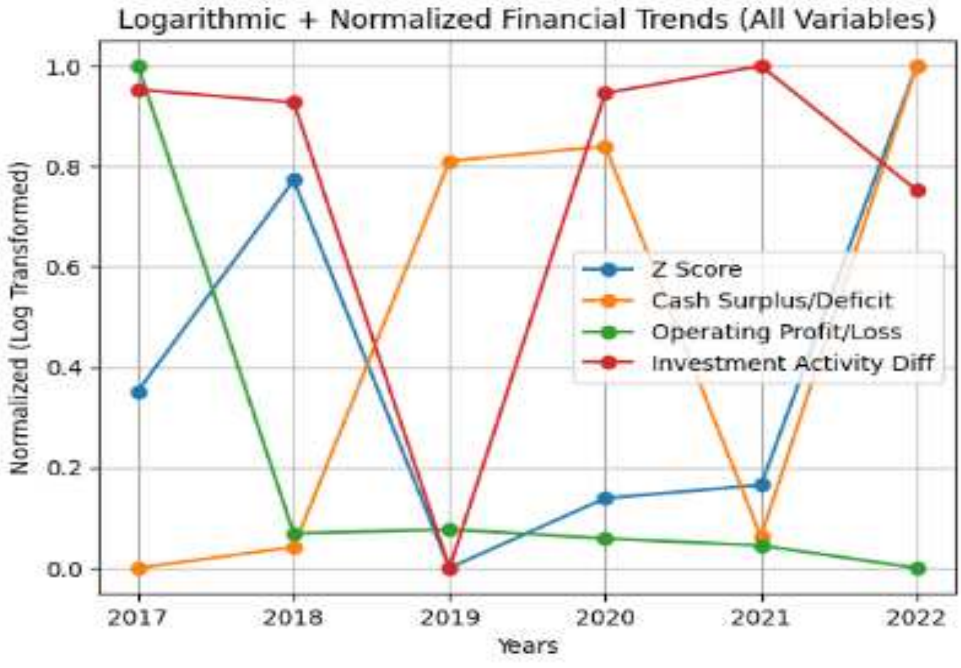


Fig 8: Comparison of the Components of Tekart Tourism Company.

Ulaşlar Tourism Company recorded positive Altman Z-scores throughout 2017–2022. The score declined from 9.42201 in 2017 to 7.03916 in 2018, increased slightly to 7.09934 in 2019 and peaked at 10.82256 in 2020. It then declined to 8.63868 in 2021 before increasing to 9.31566 in 2022. These fluctuations indicate that the reported score remained positive but did not improve continuously. Cash flow was positive in 2017–2018, negative in 2019, and positive again in 2020–2021 before becoming negative in 2022. Operating profit or loss also varied, with losses in 2017, 2019 and 2020, followed by positive operating results in 2018, 2021 and 2022. In 2022, the company reported an operating profit of 11,091,000 despite a cash deficit of 13,797,550. This contrast shows that positive operating profitability did not necessarily correspond to positive cash flow. Compared with Tek-Art Turizm, Ulaşlar maintained positive Z-scores throughout the period, although its cash and operating indicators still showed fluctuations. These findings support the use of multiple financial indicators rather than the Z-score alone when examining financial resilience (Table 8 and Fig. 9).

Table 8: Financial Stability and Supporting Factors of Ulaşlar Tourism Company

Year	Z-score	Cash Surplus/Deficit	Operating Profit/Loss	Investment Activity Income–Expense Difference	Financial Soundness
2017	9.42201	795,412	−488,000	20,832,000	No risk of bankruptcy
2018	7.03916	3,905,587	2,083,000	1,772,000	—
2019	7.09934	−2,944,304	−1,069,000	601,000	—
2020	10.82256	5,508,824	−2,790,000	11,260,000	No risk of bankruptcy
2021	8.63868	8,473,199	5,321,000	26,109,000	No risk of bankruptcy
2022	9.31566	−13,797,550	11,091,000	99,461,000	No risk of bankruptcy

Source: Author's calculations.

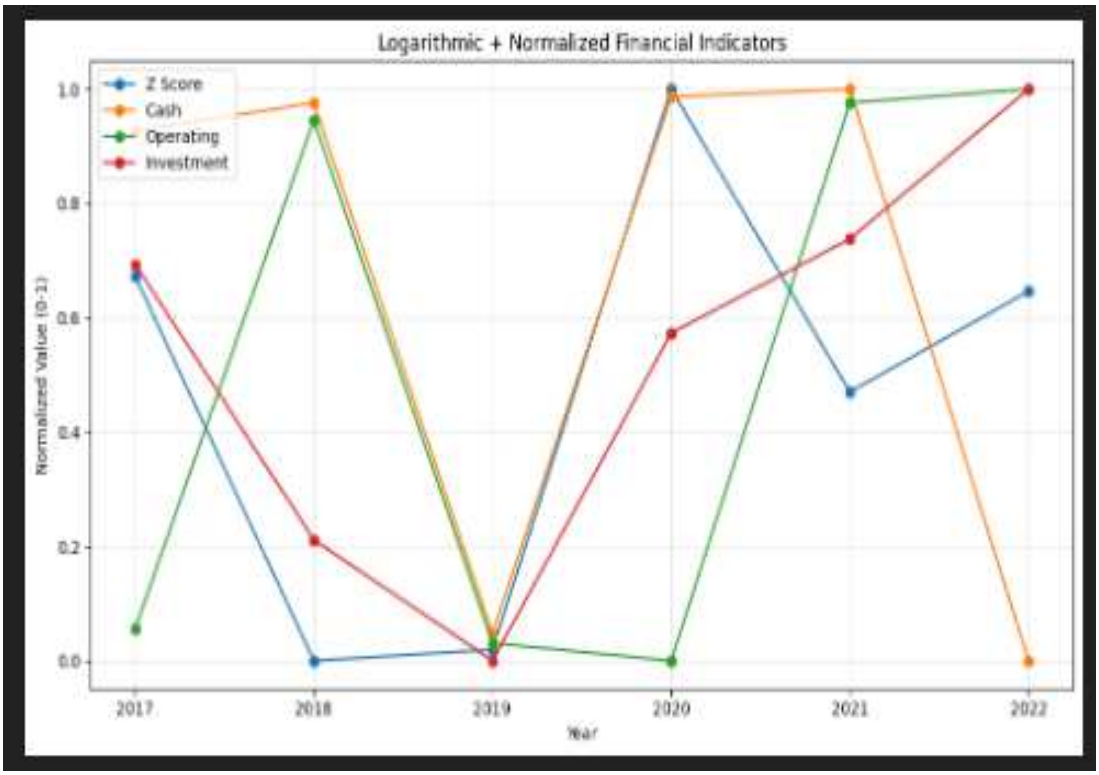


Fig 9: Comparison of the Components of Ulaşlar Tourism Company

Comparative Analysis Across the Selected Companies

The comparison of the eight tourism companies revealed substantial differences in their reported financial conditions between 2017 and 2022. Merit Tourism and Ulaşlar Tourism maintained positive Altman Z-scores throughout the study period, while Martı Otel recorded negative scores in most years. Petrokent Tourism showed a recovery in its Z-score and operating profitability after the decline observed in 2020. Kuştur Kuşadası Tourism maintained positive scores but experienced a marked decline in its score by 2022. Altınyunus Çeşme and Marmaris Altınyunus also recorded fluctuations in their scores alongside changes in cash flow and operating results. Tek-Art Turizm displayed a different pattern, with operating losses continuing through 2022 despite an improvement in its reported Z-score and a substantial cash surplus in the final year.

The comparison also demonstrates that cash flow, operating profitability and Altman Z-scores did not always move in the same direction. Some companies reported positive scores alongside cash deficits or operating losses, whereas others experienced improvements in cash generation without consistently positive operating performance. During 2020–2021, the selected

companies displayed different patterns rather than a uniform financial response. These observations suggest that company-level financial conditions should be assessed using several complementary indicators. However, because the study is based on eight selected firms and descriptive comparisons, the findings do not establish that particular business characteristics caused stronger resilience or that the observed changes were caused exclusively by the COVID-19 pandemic.

Conclusion

The analysis of bankruptcy risk and financial failure among the eight selected tourism companies in Turkey during the 2017–2022 period revealed considerable differences in their financial performance and resilience. The findings indicate that the companies varied in terms of Altman Z-scores, cash flow, operating profitability, and investment income, reflecting differences in their financial structures and operational performance.

The results demonstrate that a relatively high Z-score did not necessarily correspond to consistently positive cash flow or operating profitability. Some companies maintained high Z-scores despite experiencing cash deficits or operating losses, whereas others exhibited fluctuations in their financial soundness during the study period. These findings highlight the importance of examining multiple financial indicators rather than relying exclusively on bankruptcy prediction models when evaluating the financial stability of tourism businesses.

The COVID-19 period further highlighted differences in the financial responses of the selected companies. While some experienced deteriorating operating performance and cash flow, others maintained comparatively strong financial indicators. Factors such as diversified business activities, group-company affiliation, year-round hotel operations, capital increases, investment activities, and service-quality improvements were identified as potential contributors to financial resilience. However, their individual effects cannot be established conclusively from the descriptive financial analysis.

Overall, the study suggests that financial stability in the tourism sector is influenced by a combination of financial structure, liquidity, operating performance, investment activities, and company-specific characteristics. The findings provide insights into the varying financial conditions of selected Turkish tourism companies and emphasize the need for a comprehensive approach to assessing financial distress, particularly during periods of economic uncertainty. Future research could extend the observation period, include a larger sample of tourism

companies, and apply additional statistical methods to examine the relationships between financial indicators, company characteristics, and bankruptcy risk.

Limitations

This study has several limitations. First, the analysis covers eight selected listed tourism companies in Türkiye over the period 2017–2022; therefore, the findings may not be generalisable to the entire tourism sector or to companies operating in other countries. Second, the analysis relies on publicly available annual reports and financial statements, and its accuracy depends on the completeness and comparability of the reported information. Third, the Altman Z-score is a financial distress indicator, and its interpretation may be affected by differences between the financial structures of tourism companies and those of the firms for which the selected model was originally developed. Fourth, the comparative analysis identifies differences in financial indicators over time but does not establish causal relationships between the COVID-19 pandemic and company-level financial outcomes. Future research could examine a larger sample of firms over a longer period and use additional analytical methods to investigate the factors associated with financial resilience.

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Author Contributions

Dogan Kutukiz was responsible for the conceptualization, methodology, data collection, formal analysis, investigation, and writing of the manuscript.

Artificial Intelligence (AI) Usage

The author should disclose any use of artificial intelligence tools in the preparation of this manuscript, in accordance with the journal's AI policy. If no AI tools were used, state: "No artificial intelligence tools were used in the preparation of this manuscript."

Competing Interests

The author declares that there are no competing interests that could have influenced the work reported in this manuscript.

Ethics Declarations

Not applicable. This study is based on publicly available financial data and does not involve human participants or animals.

Availability of Data and Materials

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Data Availability

The financial data analysed in this study were obtained from the published annual reports and financial statements of the eight selected tourism companies in Türkiye for the period 2017–2022. The available company-level financial data, derived indicators, calculation details, variable definitions, and supporting source documents are provided in the supplementary materials accompanying this manuscript. The supplementary materials are intended to facilitate verification of the reported calculations and findings.

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